## AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:


Claim 1 (Currently Amended): A network device for a device network, comprising:

a content detection layer adapted to detect the content type of external traffic received by said network device, and to pass said external traffic, in dependence of the detected content type, to a content-specific convergence layer adapted to handle the respective content type, and

at least two content-specific convergence layers adapted to exchange network traffic with other network devices of said device network via content-specific connections, wherein said content-specific connections are adapted to the requirements of the respective content type, wherein

the at least two content-specific convergence layers include a common part, the common part being common to the at least two content-specific convergence layers,

the common part being adapted to segment a data packet of said external traffic into a plurality of corresponding data packets in accordance with an internal protocol of the device network and for each of said at least two content-specific convergence layers,

the common part being further adapted to reassemble data packets according to said internal protocol of the device network and for each of said at least two content-specific convergence layers into corresponding data packets of a receiving external traffic.


Claim 2 (Previously Presented): The network device according to claim 1, wherein one of said content types is real-time critical data, and said at least two content-specific convergence layers include a convergence layer adapted to handle real-time critical data.

Claim 3 (Previously Presented): The network device according to claim 1, wherein one of said content types is packet-based data, wherein said at least two content-specific convergence layers include a convergence layer adapted to handle packet-based data.

Claim 4 (Previously Presented): The network device according to claim 1, wherein said external traffic is at least one of Ethernet traffic, IEEE 1394 traffic, UMTS traffic or PPP traffic.

Claim 5 (Previously Presented): The network device according to claim 1, wherein said network device includes hardware connectivity for at least one of Ethernet traffic, IEEE 1394 traffic, UMTS traffic or PPP traffic.

Claim 6 (Previously Presented): The network device according to claim 1, wherein said network device is an access point of said device network.

Claim 7 (Previously Presented): The network device according to claim 4, wherein said content detection layer is adapted to analyze if said Ethernet traffic is real-time critical traffic, and is adapted to pass said Ethernet traffic, in case said Ethernet traffic is real-time critical, to a convergence layer adapted to handle real-time critical data.

Claim 8 (Previously Presented): The network device according to claim 4, wherein said content detection layer is adapted to analyze if said Ethernet traffic is not real-time critical traffic, and is adapted to pass said Ethernet traffic, in case said Ethernet traffic is not real-time critical, to a convergence layer adapted to handle packet-based data.

Claim 9 (Previously Presented): The network device according to claim 4, wherein said content detection layer is adapted to analyze if said IEEE 1394 traffic is packet-based data traffic, and is adapted to pass said IEEE 1394 traffic, in case said IEEE 1394 traffic is packet-based data traffic, to a convergence layer adapted to handle packet-based data.

Claim 10 (Previously Presented): The network device according to claim 4, wherein said content detection layer is adapted to analyze if said IEEE 1394 traffic is real-time critical data traffic, and is adapted to pass said IEEE 1394 traffic, in case said IEEE 1394 traffic is real-time critical data traffic, to a convergence layer adapted to handle real-time critical data.

Claim 11 (Canceled).

Claim 12 (Previously Presented): The network device according to claim 1, wherein said content-specific convergence layers are operable to be used simultaneously within the same device network.

Claim 13 (Currently Amended): A device network, including at least a first and a second network device, the first network device comprising:

a content detection layer adapted to detect the content type of external traffic received by said first network device, and to pass said external traffic, in dependence of the detected content type, to a content-specific convergence layer adapted to handle the respective content type; and

at least two content-specific convergence layers adapted to exchange network traffic with said second network devices of said device network via content-specific connections, wherein

said content-specific connections are adapted to the requirements of the respective

content type,

the at least two content-specific convergence layers of said first network device

include a common part, <u>the common part being common to the at least two content-specific</u>

<u>convergence layers,</u>

the common part being adapted to segment a data packet of said external traffic into a

plurality of corresponding data packets in accordance with an internal protocol of the device

network and for each of said at least two content-specific convergence layers,

the common part being further adapted to reassemble data packets according to said

internal protocol of the device network and for each of said at least two content-specific

convergence layers into corresponding data packets receiving external traffic, and

the second network device comprising:

at least two further content-specific convergence layers adapted to exchange

network traffic with said first network device of said device network via content-specific

connections, wherein

said content-specific connections are adapted to the requirements of the

respective content type,

the at least two further content-specific convergence layers of said second

network device include a further common part, <u>the common part being common to the at least</u>

<u>two content-specific convergence layers, the common part being</u> adapted to reassemble data

packets according to said internal protocol of the device network and for each of said at least

two content-specific convergence layers into corresponding data packets of a receiving

external traffic.

Claim 14 (Previously Presented): The device network according to claim 13, wherein the at least two content-specific convergence layers and the at least two further content-specific convergence layers are adapted to set up and release content-specific connections between the first and second network devices of said device network, with a content-specific connection being set up between one of said at least two content-specific convergence layers of said first network device which supports a certain content type, and the respective content-specific convergence layer of said second network device which supports the same content type.

Claim 15 (Previously Presented): The device network according to claim 13, wherein the external traffic exchanged with said content-specific convergence layer of said first network device is of a different kind than the further external traffic exchanged with said content-specific convergence layer of said second network device.

Claim 16 (Previously Presented): The device network according to claim 13, wherein the at least two content-specific convergence layers and the at least two further content-specific convergence layers are adapted to reserve a fixed bandwidth for said content-specific connection in case said content-specific connection is for a content type which requires a quality of service feature.

Claim 17 (Previously Presented): The device network according to claim 13, wherein the at least two content-specific convergence layers and the at least two further content-specific convergence layers are adapted to register for each content-specific connection, the content type supported by said content-specific connection.

Claim 18 (Previously Presented): The device network according to claim 13, wherein said device network is a wireless local area network (WLAN), or a HiperLAN/2 network.

Claim 19 (Previously Presented): The device network according to claim 13, wherein the device network is adapted to exchange control messages and data packets between said first and second network device according to a TDMA transmission scheme.

Claim 20 (Previously Presented): The device network according to claim 19, wherein the device network is adapted to reserve a set of time slots of said TDMA transmission scheme for a certain content-specific connection.

Claim 21 (Currently Amended): A method for transmitting data traffic via a device network, comprising:

detecting by a first network device a content type of external traffic arriving at the device network;

passing within said first network device said external traffic, in dependence of the detected content type, to a content-specific convergence layer adapted to handle the respective content type;

segmenting a data packet of the external traffic into a plurality of corresponding data packets according to an internal protocol of the device network and for the content-specific convergence layer, using a common part of convergence layers of said first network device, the common part being common to at least two content-specific convergence layers;

transmitting said data packets according to the internal protocol of the device network to a second network device via content-specific connections, wherein said content-specific connections are adapted to the requirements of the respective content type; and

reassembling with the second network device said data packets according to the

internal protocol of the device network into corresponding data packets of a receiving

external traffic, using a further common part of further convergence layers of the second

network device.


Claim 22 (Previously Presented): The method according to claim 21, further

comprising:

setting up the content-specific connections between said first and second network

devices before transmitting said network traffic between said first and second network

devices in accordance with said content type.


Claim 23 (Previously Presented): The method according to claim 21, further

comprising:

releasing, after the network traffic between said first and second network devices has

been transmitted in accordance with said content type, said content-specific connection

between said two network devices.


Claim 24 (Currently Amended): A tangible computer readable storage medium

encoded with a computer readable program configured to cause an information processing

apparatus to execute a method, the method comprising:

detecting by a first network device a content type of external traffic arriving at the

device network;

passing within said first network device said external traffic, in dependence of the

detected content type, to a content-specific convergence layer adapted to handle the

respective content type;

segmenting a data packet of the external traffic into a plurality of corresponding data packets according to an internal protocol of the device network for the content-specific convergence layer, using a common part of convergence layers of said first network device, the common part being common to at least two content-specific convergence layers;

transmitting said data packets according to the internal protocol of the device network to a second network device via content-specific connections, wherein said content-specific connections are adapted to the requirements of the respective content type; and

reassembling with the second network device said data packets according to the internal protocol of the device network into corresponding data packets of a receiving external traffic, using a further common part of further convergence layers of the second network device.

Claim 25 (Canceled).

Claim 26 (Currently Amended):  The network device according to claim 1, further comprising:

a plurality of interconnects a convergence layer including drivers that are adapted to receive and send data according to different external network protocols, respectively.

Claim 27 (Previously Presented):  The network device according to claim 1, wherein the common part is further adapted to detect a protocol type of the receiving external traffic and to forward the data to the respective target device.

Claim 28 (Previously Presented):  The device network according to claim 13, wherein the network is an ad-hoc network.

Claim 29 (New): The network device according to claim 1, wherein the content

detection layer and the convergence layers are disposed in a protocol stack, the protocol stack

comprising physical layers, data link control layers and convergence layers, wherein the

convergence layers comprise the content detection layer and the at least two content-specific

convergence layers, the at least two content-specific convergence layers being disposed

between the content detection layer and the data link control layer.


Claim 30 (New): The network device according to claim 29, wherein the at least two

content-specific convergence layers are disposed at the same height in the protocol stack.